

AMENDMENTS TO THE SUBSTITUTE SPECIFICATION:

Please amend the paragraph beginning at page 3, line 1, as follows:

Fig 4 shows a cross section of the device of Fig 3, along the line ~~III-III~~IV-IV,

Please amend the paragraph beginning at page 3, line 2, as follows:

Figs 5a, 5b, and 5c ~~shows~~show a top view of another non-limiting example embodiment, Fig 6 shows a cross section of the device of Fig 5, along the line VI- VI, and

Please delete the paragraph beginning at page 3, line 5, which starts with:

Figs 7-12 show...

Please add the following new paragraph after the paragraph beginning at page 3, line 2, as follows:

Fig 7 shows a top view of a non-limiting example embodiment which alleviates mutual negative coupling between conductive strips,

Fig 8 illustrates a top view of another non-limiting example embodiment,

Fig 9 illustrates a top view of yet another non-limiting example embodiment that achieves better wideband properties as compared to the example embodiment in Fig 7,

Fig 10 illustrates a top view of another example non-limiting embodiment with a periodic taper,

Figs 11a and 11b are top views of non-limiting example embodiments which allow better possibilities for tailoring the capacitance of the device, and

Figs 12a-12c show top views for another non-limiting example embodiment.

Please amend the paragraph beginning at page 3, line 8, as follows:

DETAILED DESCRIPTION

In fig 1, a first non-limiting example embodiment 100 of a tunable delay line is shown in top view. The delay line 100 comprises a first conductor 110, which has a first main direction of extension, indicated by the arrow A in fig 1. In addition to the first conductor 110, the delay line 100 also comprises a second conductor 120, which has a second main direction of extension, indicated by the arrow B in fig 1.

Please amend the paragraph beginning a page 3, line 15, as follows:

Shifting now to fig 2, a cross section of the arrangement 100 from fig 1 is shown, along the line II – II in fig 1. As can be seen in ~~fig-figs 1 and 2~~, the first and the second conductors 110, 120 are arranged on top of a layer 130 of a ferroelectric material which has a high permittivity. Some examples of such materials are BaTiO₃, SrTiO₃ and various combinations of Ba, Sr and TiO₃, usually expressed as Ba_xSr_(1-x)TiO₃ or combinations of Na, K and NO₃, usually expressed as Na_xK_(1-x)NO₃.

Please amend the paragraph beginning at page 3, line 23, as follows:

Below the layer 130 of the ferroelectric material, there is arranged a supporting layer or substrate 240 of a non-conducting material. In fig 2, there is also schematically shown how the delay τ of the device 100 is altered: an AC control voltage, V_{TUNE}, is applied between the first and second conductors 110, 120, and the voltage is altered to achieve the desired delay τ . The (+) and (-) symbols indicate the polarity of V_{TUNE} when applied. Also indicated in fig 2 with broken lines, is the fact that there is a capacitive coupling between the two conductors 110, 120.

Please amend the paragraph beginning at page 4, line 7, as follows:

Returning now to fig 1, it can be seen that in the delay line 100 of the invention, the first main direction of extension, A, of the first conductor 110 essentially coincides with the second main direction of extension, B, of the second conductor 120, and also that the first 110 and second 120 conductors are each other's mirror ~~image~~ images with respect to an imaginary line C in the center of the delay line, along the first and second main directions of extension.

Please amend the paragraph beginning at page 5, line 22, as follows:

As shown in figs 3 and 4, the embodiment 300 comprises the same meander shaped first 310 and second 320 conductors and imaginary line C as the embodiment 100 in figs 1 and 2. However, the embodiment 300 additionally comprises a third conductor 350 (see Fig 4) arranged between the non-conducting substrate and the layer of ferroelectric material, with the third conductor being arranged so that it extends from a point below the first conductor to a point below the second conductor, in a direction of extension which is essentially perpendicular to said first and second directions of extension.

Please amend the paragraph beginning at page 6, line 22, as follows:

Tuning of the delay of the delay line 300 is accomplished by applying a DC-voltage between the first 310 and the second 320 conductors, as shown in fig 4. The polarity of the DC voltage as applied to the first 310 and second 320 conductors is denoted with (+) and (-) symbols.

Please amend the paragraph beginning at page 7, line 1, as follows:

Yet a further example embodiment 500 of a device is shown in figs 5a – 5c. This embodiment shows a way of decreasing the ohmic losses. A first conducting pattern, a first delay line 505, shown in fig 5c, is formed in the bottom layer of the device, i.e. between a substrate and a ferroelectric material, the first delay line 505 being essentially similar to those shown in figs 1 and 3, i.e. it has two meander shaped conductors 510, 520, essentially parallel to each other, extending in a common general direction, where the conductors are essentially each other's mirror image with respect to an imaginary line C between them, the imagined-imaginary line extending in the general direction of the device.

Please amend the paragraph beginning at page 7, line 13, as follows:

Thus, the two conductors of the delay line 505 have one section 532 that points "straight ahead", i.e. in the general direction of the device, and then one section 531 that is perpendicular to the general direction C of the device 500. Both conductors 510, 520, have alternating such sections, each section being joined to the next one. Thus, each conductor has a recurring pattern of two parallel sections 531, 534, that point "outwards" with respect to the general direction of the device, with the two parallel sections being joined at the "outer" edge of the device by a conductor 532 which is perpendicular to the two parallel sections. Each of the two parallel sections 531, 534, is then joined at its other end, the "inner end" of the meander pattern, to an adjoining such section by a joining conductor 533 shown in fig 5c, which is again perpendicular to the direction of the parallel sections.

Please amend the paragraph beginning at page 9, line 12, as follows:

In a more generalized sense, the embodiment shown in fig 7 could be described in the following way. The first conductor 710 alternatingly comprises sections 712 of a second direction of extension 712 and sections 711 of a third direction of extension714, with the second direction of extension 712 being at an angle α with respect to the device's main direction C of extension and the third direction of extension 713 being at an angle β with respect to the device's main direction C of extension, α being in the interval between zero and ninety degrees, and β being in the interval between ninety and one hundred eighty degrees.

Please amend the paragraph beginning at page 9, line 22, as follows:

The second conductor 720 also comprises sections 713 of a fourth direction of extension 713 and sections 714 of a fifth direction of extension714, with the fourth direction of extension being at an angle α' with respect to the device's main direction C of extension and the fifth direction of extension being at an angle β' with respect to the device's main direction C of extension, α' being in the interval between zero and minus ninety degrees, and β' being in the interval between minus ninety and minus one hundred eighty degrees.

Please amend the paragraph beginning at page 10, line 6, as follows:

The first conductor 710 and second conductor 720 are arranged in the delay line 700 so that the first conductor's sections 712 in the second direction of extension cross the second conductor's sections 713 in the fourth direction of extension, and so that the first conductor's sections 711 in the third direction of extension cross the second conductor's sections 714 in the fifth direction of extension714.